TABLE OF CONTENTS

No. 1 January–February 1993
Issued 17 March 1993

Presidential Address

Looking at Mycology with a Janus face: A glimpse at Chytridiomycetes active in the environment
1 **M. J. Powell**

Pathology

Fusarium species stored on silica gel and soil for ten years (BRIEF ARTICLE)
21 **C. E. Windels, P. M. Burnes, and T. Kommedahl**

Cell Biology and Ultrastructure

Light and electron microscopy of a new species of *Euryancale* producing phallus-shaped conidia
24 **M. Saikawa and E. Katsurashima**

Septal ultrastructure of basidiomycetous yeasts and their taxonomic implications with observations on the ultrastructure of *Erythrobasidium hasegawianum* and *Sympodiomycopsis paphiopedili*
30 **S.-O. Suh, A. Hirata, J. Sugiyama, and K. Komagata**

Observations of *Gonapodya* in pure culture: Growth, development and cell wall characterization
38 **M. S. Fuller and R. P. Clay**

Nuclear status of two *Suillus* species (BRIEF ARTICLE)
46 **R. Treu and O. K. Miller, Jr.**

Physiology and Biochemistry

Spore exudates and other factors affecting germination type of *Cronartium quercuum* f. sp. *fusiforme* basidiospores
51 **P. C. Spaine and S. Kaneko**

Preussomerin D from the endophyte *Hormonema dematioides* (BRIEF ARTICLE)
62 **J. D. Polishook, A. W. Dombrowski, N. N. Tsou, G. M. Salituro, and J. E. Curotto**

Molecular Biology

Discrimination between *Hirsutella longicolla* var. *longicolla* and *Hirsutella longicolla* var. *cornuta* using random amplified polymorphic DNA fingerprinting
65 **D. B. Strongman and R. M. MacKay**

Survey of the *Aspergillus niger* group for DNA sequences cross hybridizing to the five prime region of the fungal phytase gene (BRIEF ARTICLE)
71 **E. J. Mullaney**

Systematics and Morphology

Ectomycorrhizae of *Hydnellum peckii* on Norway spruce and their chlamydospores
74 **R. Agerer**

Development in *Cladonia ochrochlora*
84 **S. Hammer**

A new species of *Protoventuria* on leaves of *Vaccinium macrocarpon*
93 **L. M. Carris and A. P. Poole**

TABLE OF CONTENTS

No. 1 January–February 1993
Issued 17 March 1993

Presidential Address

Looking at Mycology with a Janus face: A glimpse at Chytridiomycetes active in the environment
1 **M. J. Powell**

Pathology

Fusarium species stored on silica gel and soil for ten years (BRIEF ARTICLE)
21 **C. E. Windels, P. M. Burnes, and T. Kommedahl**

Cell Biology and Ultrastructure

Light and electron microscopy of a new species of *Euryancale* producing phallus-shaped conidia
24 **M. Saikawa and E. Katsurashima**

Septal ultrastructure of basidiomycetous yeasts and their taxonomic implications with observations on the ultrastructure of *Erythrobasidium hasegawianum* and *Sympodiomycopsis paphiopedili*
30 **S.-O. Suh, A. Hirata, J. Sugiyama, and K. Komagata**

Observations of *Gonapodya* in pure culture: Growth, development and cell wall characterization
38 **M. S. Fuller and R. P. Clay**

Nuclear status of two *Suillus* species (BRIEF ARTICLE)
46 **R. Treu and O. K. Miller, Jr.**

Physiology and Biochemistry

Spore exudates and other factors affecting germination type of *Cronartium quercuum* f. sp. *fusiforme* basidiospores
51 **P. C. Spaine and S. Kaneko**

Preussomerin D from the endophyte *Hormonema dematioides* (BRIEF ARTICLE)
62 **J. D. Polishook, A. W. Dombrowski, N. N. Tsou, G. M. Salituro, and J. E. Curotto**

Molecular Biology

Discrimination between *Hirsutella longicolla* var. *longicolla* and *Hirsutella longicolla* var. *cornuta* using random amplified polymorphic DNA fingerprinting
65 **D. B. Strongman and R. M. MacKay**

Survey of the *Aspergillus niger* group for DNA sequences cross hybridizing to the five prime region of the fungal phytase gene (BRIEF ARTICLE)
71 **E. J. Mullaney**

Systematics and Morphology

Ectomycorrhizae of *Hydnellum peckii* on Norway spruce and their chlamydospores
74 **R. Agerer**

Development in *Cladonia ochrochlora*
84 **S. Hammer**

A new species of *Protoventuria* on leaves of *Vaccinium macrocarpon*
93 **L. M. Carris and A. P. Poole**

Morphological studies of *Aspergillus* section *Versicolores* and related species
100 **M. A. Klich**

Harknessia species occurring in South Africa
108 **P. W. Crous, M. J. Wingfield, and T. R. Nag Raj**

Characterization and distribution of *Fusarium acuminatum* subsp. *armeniacum subsp. nov.* (BRIEF ARTICLE)
119 **L. W. Burgess, G. A. Forbes, C. Windels, P. E. Nelson, W. F. O. Marasas, and K. P. Gott**

Dioicomyces italicus Spegazzini and *D. formicomi* Thaxter (BRIEF ARTICLE)
125 **W. Rossi**

New Techniques

A novel method for identifying new conidia in submerged liquid culture (BRIEF ARTICLE)
127 **K. M. Howard, M. G. Smart, and R. J. Bothast**

Spheroplast and protoplast formation from cysts of *Phytophthora sojae* treated with digestive enzymes (BRIEF ARTICLE)
131 **R. E. Wagner and H. T. Wilkinson**

Book Reviews
137

Briefly Noted
142

Instructions to Authors
143

No. 2 March–April 1993
Issued 10 May 1993

Ecology

149 Geographic survey of fungal endophyte community composition in leaves of coastal redwood
J. L. Rollinger and J. H. Langenheim

157 Nonreciprocal compatibility between *Epichloë typhina* and four host grasses
A. Leuchtmann and K. Clay

Pathology

164 Delineation and biology of clones of *Armillaria ostoyae, A. gemina* and *A. calvescens*
D. M. Rizzo and T. C. Harrington

175 Transmission of La France isometric virus during basidiosporogenesis in *Agaricus bisporus* (BRIEF ARTICLE)
C. P. Romaine, P. Ulhrich, and B. Schlagnhaufer

Genetics

180 Genotypic diversity in populations of a fungal endophyte from Douglas fir
T. L. McCutcheon, G. C. Carroll, and S. Schwab

187 Mating and fruiting studies of *Auricularia delicata* and *A. fuscosuccinea*
G. J. Wong

Physiology and Biochemistry

195 Endophyte-host associations in grasses. XVIII. Moisture relations and insect herbivory of the emergent stromal leaf of *Epichloë*
J. F. White, Jr., A. E. Glenn, and K. F. Chandler

203 Volatile germination stimulators of conidia of powdery mildews (BRIEF ARTICLE)
Y. Gu and X. Zhang

206 Sensitivity of field strains of *Gibberella fujikuroi* (*Fusarium* section *Liseola*) to benomyl and hygromycin B (BRIEF ARTICLE)
K. Yan, M. B. Dickman, J.-R. Xu, and J. F. Leslie

214 Submerged production of *Monascus* pigments (BRIEF ARTICLE)
S.-W. Chiu and Y.-K. Poon

Molecular Biology

219 Relatedness of the ericoid endophytes *Scytalidium vaccinii* and *Hymenoscyphus ericae* inferred from analysis of ribosomal DNA
K. N. Egger and L. Sigler

Systematics and Morphology

231 Polyporicolous species of *Hypomyces*
C. T. Rogerson and G. J. Samuels

273 Delimitation of *Hymenogaster sensu stricto* and four new segregate genera
N. L. Bougher and M. A. Castellano

294 A taxonomic revision of the genus *Endoxyla*
W. A. Untereiner

311 Rhizoidal hyphae, sporangioid hyphal sinks and hyphal constrictions in *Achlya heterosexualis* (BRIEF ARTICLE)
D. D. Thomas and M. C. Wolf

317 Spore ontogeny of *Glomus globiferum* (BRIEF ARTICLE)
C.-G. Wu and D. M. Sylvia

New Techniques

323 Problems with fixation and embedding of arbuscular mycorrhizal fungi (Glomales)
L. C. Maia, J. W. Kimbrough, and G. Erdos

Memorial

331 Kenneth Archibald Harrison, 1901–1991
J. Ginns

Corrigendum

334

Financial Report

335

No. 3 May–June 1993
Issued 13 July 1993

Ecology and Biogeography

337 Biogeographic observations on Pacific marine fungi
B. Volkmann-Kohlmeyer and J. Kohlmeyer

347 Wood degrading ability of basidiomycetes that are wood decomposers, litter decomposers, or mycorrhizal symbionts
E. Tanesaka, H. Masuda, and K. Kinugawa

355 Freshwater leaf-inhabiting hyphomycetes of an Iranian river (BRIEF ARTICLE)
H. Zare-Maivan and M. Ghaderian

Pathology

358 Fungal entomopathogens recovered from Vermont forest soils (BRIEF ARTICLE)
M. Brownbridge, R. A. Humber, B. L. Parker, and M. Skinner

362 Endophytic fungi of *Stylosanthes*: A first report (BRIEF ARTICLE)
J. O. Pereira, J. L. Azevedo, and O. Petrini

365 Identification of *Armillaria* species from New Hampshire (BRIEF ARTICLE)
T. C. Harrington and D. M. Rizzo

Genetics

369 Association of random amplified polymorphic DNA markers with stromatal type in *Hypoxylon truncatum sensu* Miller
C.-S. Yoon and D. A. Glawe

381 The *FLR1* gene, a useful system for rapid screening of tryptophan auxotrophs in *Schizophyllum commune* (BRIEF ARTICLE)
E. Kothe, H. W. Kothe, C. A. Specht, C. P. Novotny, and R. C. Ullrich

Physiology and Biochemistry

385 Production of fumonisins and fusarins by *Fusarium moniliforme* from Southeast Asia
J. D. Miller, M. E. Savard, A. Sibilia, S. Rapior, A. D. Hocking, and J. I. Pitt

392 The autogenic extracellular environment of *Uromyces appendiculatus* urediospore germlings
T. D. Moloshok, G. M. E. Leinhos, R. C. Staples, and H. C. Hoch

Molecular Biology

401 Phylogenetic relationships of selected cereal and grass rusts based on rDNA sequence analysis
P. J. Zambino and L. J. Szabo

415 Ribosomal DNA sequence divergence within internal transcribed spacer 1 of the Sclerotiniaceae
I. Carbone and L. M. Kohn

Systematics and Morphology

428 Hymenophore development and evolution in *Lentinus*
D. S. Hibbett, S. Murakami, and A. Tsuneda

444 Endophyte-host associations in grasses. XIX. A systematic study of some sympatric species of *Epichloë* in England
J. F. White, Jr.

456 Myxomyceticolous fungi
C. T. Rogerson and S. L. Stephenson

470 Development and cytology of *Plectosphaerella cucumerina*
F. A. Uecker

480 Agaricales of the Hawaiian Islands. 2. Notes on some *Entoloma* species
E. Horak and D. E. Desjardin

490 Neotropical Ascomycetes 3. Reinstatement of the genus *Xenolophium* and two new species from French Guiana
S. M. Huhndorf

503 *Polytolypa*, an undescribed genus in the Onygenales (BRIEF ARTICLE)
J. A. Scott, D. W. Malloch, and J. B. Gloer

509 Notes on *Mycena cylindrospora* and *Eomycenella echinocephala* (BRIEF ARTICLE)
D. E. Desjardin

514 *Nomuraea cylindrospora comb. nov.* (BRIEF ARTICLE)
S. S. Tzean, L. S. Hsieh, J. L. Chen, and W. J. Wu

520 *Sarcopodium araliae sp nov.* on root of *Aralia elata* from Japan (BRIEF ARTICLE)
T. Watanabe

No. 4 July–August 1993
Issued 3 September 1993

Ecology and Biogeography

527 *Balansia pilulaeformis*, an epiphytic species
K. Clay and I. C. Frentz

535 Biogeographic studies on trichomycete gut fungi in winter stonefly nymphs of the genus *Allocapnia*
R. W. Lichtwardt, M. J. Huss, and M. C. Williams

547 Some observations on the vertical distribution of vesicular arbuscular mycorrhizae in roots of salt marsh grasses growing in saturated soils (BRIEF ARTICLE)
J. C. Cooke, R. H. Butler, and G. Madole

Pathology

551 Comparative studies of *Cryptosporiopsis curvispora* and *C. perennans*. I. Morphology and pathogenic behavior
F. M. Dugan, G. G. Grove, and J. D. Rogers

565 Comparative studies of *Cryptosporiopsis curvispora* and *C. perennans*. II. Cytology and vegetative compatibility
F. M. Dugan, R. G. Roberts, and G. G. Grove

Physiology and Biochemistry

574 Production of cellulolytic enzymes by *Rhizopus oryzae* in culture and *Rhizopus*-infected tissues of potato tubers (BRIEF ARTICLE)
A. C. Amadioha

579 Amatoxins and phallotoxins in *Amanita* species: High-performance liquid chromatographic determination (BRIEF ARTICLE)
F. Enjalbert, C. Gallion, F. Jehl, H. Monteil, and H. Faulstich

Molecular Biology

585 Detection of methylated mushroom DNA by restriction enzyme analysis
N. W. Wilke and M. P. Wach

592 Phylogenetic analysis of two ribosomal DNA regions indicates multiple independent losses of a sexual *Talaromyces* state among asexual *Penicillium* species in subgenus *Biverticillium*
K. F. LoBuglio, J. I. Pitt, and J. W. Taylor

Systematics and Morphology

605 Serological differentiation of two forms of *Phellinus weirii*
M. T. Banik, J. A. Paul, H. H. Burdsall, Jr., and M. E. Cook

612 Some didymosporous species of *Nectria* with nonmicroconidial *Cylindrocarpon* anamorphs
D. Brayford and G. J. Samuels

638 A new marine ascomycete in Spathulosporales, *Hispidicarpomyces galaxauricola gen. et sp. nov.* (Hispidicarpomycetaceae *fam. nov.*), inhabiting a red alga, *Galaxaura falcata*
A. Nakagiri

653 The anamorphs of *Grovesiella abieticola*
T. N. Sieber and T. Kowalski

660 Observations on Thamnidiaceae (Mucorales). VI. Two new species of *Dichotomocladium* and the zygospores of *D. hesseltinei* (Chaetocladiaceae)
G. L. Benny and R. K. Benjamin

672 Studies on *Cystoderma*: A new species and a new combination
A. E. Franco-Molano

677 Systematics of *Morchella esculenta* complex using enzyme-linked immunosorbent assay
S. W. Jung, R. V. Gessner, K. C. Keudell, and M. A. Romano

685 *Leuconectria clusiae gen. nov.* and its anamorph *Gliocephalotrichium bulbilium* with notes on *Pseudonectria*
A. Y. Rossman, G. J. Samuels, and R. Lowen

705 *Mycosphaerella suberosa* associated with corky leaf spots on *Eucalyptus* in Brazil (BRIEF ARTICLE)
P. W. Crous, F. A. Ferreira, A. Alfenas, and M. J. Wingfield

711 The uredinial state of *Puccinia festucae-ovinae* (BRIEF ARTICLE)
M. M. Kulik and P. D. Dery

Book Reviews, Briefly Noted

714, 720

Change in Instructions to Authors

704

No. 5 September–October 1993
Issued 22 November 1993

Review

721 Fluorescence confocal microscopy: Applications in fungal cytology
Y. H. Kwon, K. S. Wells, and H. C. Hoch

Cell Biology and Ultrastructure

734 Ultrastructural and light microscopic localization of carbohydrates and peroxidase/catalases in *Lagenidium giganteum* zoospores
M. L. Berbee and J. L. Kerwin

744 Characteristics of extracellular adhesions produced during *Saprolegnia ferax* secondary zoospore encystment and cystospore germination
L. Durso, L. P. Lehnen, Jr., and M. J. Powell

Ecology

756 Natural release of *Epichloe typhina* ascospores and its temporal relationship to fly parasitism
A. M. Welch and T. L. Bultman

Genetics

764 *Didymium iridis* reproductive systems: Additions and meiotic drive
J. Clark and J. C. Landolt

769 The population biology of two litter decomposing agarics on a southern Appalachian mountain
J. F. Murphy and O. K. Miller, Jr.

777 Reassessment of heterokaryon formation in *Rhizoctonia solani* anastomosis group 4
M. A. Cubeta, R. Briones-Ortega, and R. Vilgalys

Molecular Biology

788 Systematics of *Lyophyllum* section *Difformia* based on evidence from culture studies and ribosomal DNA sequences
J.-M. Moncalvo, S. A. Rehner, and R. Vilgalys

795 ISG-specific ribosomal DNA polymorphism of the *Rhizoctonia solani* species complex (BRIEF ARTICLE)
Z. L. Liu, L. L. Domier, and J. B. Sinclair

Pathology

801 *Fusarium solani* from ascospores of *Nectria haematococca* causes sudden death syndrome of soybean
T. S. Abney, T. L. Richards, and K. W. Roy

807 Field inoculations of sorghum with sclerotia and conidia of *Ramulispora sorghi* formed in vivo (BRIEF ARTICLE)
M. D. Thomas, F. Bocoum, and A. Thera

Physiology and Biochemistry

811 Preliminary observations on germination of *Pluteus* basidiospores (BRIEF ARTICLE)
P. Banerjee and W. J. Sundberg

Systematics and Morphology

814 *Marssonina obclavata sp. nov.* with observations on *Marssonina* and *Septogloeum*
D. F. Farr

825 Reexamination of eight taxa originally described in *Leptosphaeria* on members of Asteraceae
C. A. Shearer, S. M. Huhndorf, and J. L. Crane

835 Morphological, genetic, and interfertility analyses reveal a novel, tetrasporic variety of *Agaricus bisporus* from the Sonoran Desert of California
P. Callac, C. Billette, M. Imbernon, and R. W. Kerrigan

852 Analysis of intraspecific and interspecific variability of three common species in *Aspergillus* section *Versicolores* using DNA restriction fragment length polymorphisms (BRIEF ARTICLE)
M. A. Klich, E. J. Mullaney, and C. B. Daly

856 Addenda to the lignicolous Aphyllophorales from Israel VII (BRIEF ARTICLE)
N. Binyamini

861 Sizes of *Cryptomycina pteridis* (= *Cryptomycella pteridis*) macroconidia (BRIEF ARTICLE)
A. C. Gabel

New Technique

866 A comparison of three techniques for inoculating Chinese cabbage with *Plasmodiophora brassicae* (BRIEF ARTICLE)
L. A. Castlebury and D. A. Glawe

Memorial

868 O'Neil Ray Collins, 1931–1989
J. W. Taylor and M. E. Silliker

Book Reviews

873

No. 6 November–December 1993
Issued 27 January 1994

Cell Biology and Ultrastructure

883 Ultrastructural studies of the spore wall of *Gigaspora albida* (Glomales)
L. C. Maia, J. W. Kimbrough, and G. Benny

890 Basidiospore wall ultrastructure of the false-truffle *Hydnangium* and its phylogenetic significance (BRIEF ARTICLE)
G. M. Mueller, A. von Hofsten, A. Axén, and B. A. Strack

894 Fruiting body ultrastructure in the protostelid *Schizoplasmodiopsis vulgare* (BRIEF ARTICLE)
F. W. Spiegel and J. Feldman

Ecology

898 Effects of mycoparasitism on an aquatic hyphomycete growing on leaf litter (BRIEF ARTICLE)
M. J. Howe and K. Suberkropp

Genetics

902 Genetic analysis of a single urediniospore culture of *Cronartium quercuum* f. sp. *fusiforme*, using random amplified polymorphic DNA markers
R. L. Doudrick, C. D. Nelson, and W. L. Nance

Molecular Biology

912 Molecular systematics of unitunicate perithecial ascomycetes: The Clavicipitales-Hypocreales connection
J. W. Spatafora and M. Blackwell

923 Higher taxa of basidiomycetes: An 18S rRNA gene perspective
E. C. Swann and J. W. Taylor

Pathology

937 Two *Fusarium* species pathogenic to gypsy moth, *Lymantria dispar* (BRIEF ARTICLE)
A. E. Hajek, P. E. Nelson, R. A. Humber, and J. L. Perry

941 A hyphomycetous synanamorph of *Eutypa armeniacae* in artificial culture (BRIEF ARTICLE)
J. M. McKemy, D. A. Glawe, and G. P. Munkvold

Physiology and Biochemistry

945 A volatile self-inhibitor from *Colletotrichum graminicola*
B. Leite and R. L. Nicholson

Systematics and Morphology

952 A synopsis of the North American species of *Byssonectria* (Pezizales) with comments on the ontogeny of two species
D. H. Pfister

963 A new species of *Kirschsteiniothelia* (Pleosporales) with an unusual fissitunicate ascus
C. A. Shearer

970 New species and records of Uredinales from the Neotropics
J. F. Hennen and J. W. McCain

987 Microstructural and histochemical changes in *Acer platanoides* rhytidome caused by *Dendrothele acerina* (Aphyllophorales) and *Mycena meliigena* (Agaricales)
M. Gao and G. P. Chamuris

996 Biosystematic studies on *Phlebia acerina*, *P. rufa*, and *P. radiata* in North America
K. K. Nakasone and K. J. Sytsma

1017 *Incrustocalyptella hapuuae sp. nov.* and *Favolaschia minima* from native forests of Hawai'i (BRIEF ARTICLE)
D. E. Desjardin

1020 A new species of *Thecotheus* (Pezizales) from Taiwan (BRIEF ARTICLE)
Y.-Z. Wang and J. W. Kimbrough

1023 *Aenigmatomyces*, an enigmatic new genus of fungi from Algonquin Park, Canada (BRIEF ARTICLE)
R. F. Castañeda Ruiz and B. Kendrick

New Techniques

1028 Synchronous sporulation of *Ascosphaera proliperda*
M. X. Wu and N. N. Youssef

Corrigenda

1034

Notice

1035

Index

1036

PUBLICATION DATES

Issues for Volume **84**, 1992, were published on the dates indicated.

84(1): 28 February 1992
84(2): 29 April 1992
84(3): 23 June 1992
84(4): 19 August 1992
84(5): 21 October 1992
84(6): 28 January 1993